

AGENDA – SPRING 2019 KNOWLEDGE TRANSFER WORKSHOP
Salt Palace Convention Center, Salt Lake City

May 14, 2019

- 8:00 a.m. **Welcome** (Phillip Finck)
- 8:15 a.m. **Introduction/Overview** (Phil Hildebrandt)
- 8:45 a.m. **Nuclear Energy Fundamentals Review – Q&A on tutorials distributed prior to Workshop** (George Borlolan and Bob Varrin)
- **Fundamentals**
 - **Light Water Reactors**
 - **Safety System Design Overview**
 - **Plant Costs**
- 10:00 a.m. **Break**
- 10:15 a.m. **Management and Management Processes** (Phil Hildebrandt)
- 11:00 a.m. **Nuclear Energy Development 1940s-1960s**
- **U.S. Policies and Priorities** (Roger Mattson)
- 12:00 p.m. **Working Lunch – “Sustaining the Current Nuclear Power Fleet”**
(Stephen Burdick)
- 12:30 p.m. **Nuclear Energy Development 1940s-1960s (continued)**
- **Technologies** (Finis Southworth)
 - **Naval Nuclear Propulsion Program** (Phil Hildebrandt)
- 2:00 p.m. **Break**
- 2:15 p.m. **Nuclear Energy Development 1940s-1960s (continued)**
- **Commercializing Nuclear Energy** (Phil Hildebrandt)
- 3:00 p.m. **Safety Case Evolution, Accidents and Operating Events**
- **In the Beginning...** (Finis Southworth and Neil Todreas)
 - **Three Mile Island Unit 2 Core Melt** (Roger Mattson)
 - **Davis-Besse Loss of All Reactor Cooling** (Phil Hildebrandt)
 - **Chernobyl Disaster** (Roger Mattson)
 - **Fukushima Dai-ichi Earthquake and Tsunami** (Roger Mattson)
 - **Generic Lessons Learned from Three Severe Events** (Roger Mattson)
- 5:00-6:00 p.m. **Optional Video – Nuclear Meltdown Disaster (Inside the Fukushima Crisis and Its Aftermath)**

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- 8:00 a.m. **Safety Case Evolution, Accidents and Operating Events (continued)**
- **Contemporary Safety Case** (Finis Southworth)
 - **Risk Analysis Methods and Applications** (Bob Youngblood)
- 9:15 a.m. **Selected Commercial Experience Affecting the Safety Case**
- **Loss of Power** (Roger Mattson)
 - **Incomplete Understanding of the Safety Basis** (Greg Gibbs)
- 10:00 a.m. **Break**
- 10:15 a.m. **Design Decisions in Context**
- **Operating Temperatures and Effects on Material Choices** (Phil Hildebrandt)
 - **Reactivity Control for Commercial Reactors** (Phil Hildebrandt)
 - **Common Cause Failures** (Phil Hildebrandt)
 - **Fuel Cladding Evolution** (Finis Southworth)
- 12:00 p.m. **Working Lunch – “The Future of Nuclear Energy in a Carbon-Constrained World” – behind the scenes issues** (Dave Petti)
- 1:00 p.m. **Design Decisions in Context (continued)**
- **Design Change Inadequacy** (Greg Gibbs)
 - **Essential Service Water Design** (Greg Gibbs)
 - **Surveillance Testing and Inspection** (Greg Gibbs)
- 1:45 p.m. **Verification Testing for Design and Analysis**
- **Pressure Suppression Hydrodynamic Loads** (Roger Mattson)
 - **Loss of Flow Test Facilities – Semiscale/LOFT** (Finis Southworth)
- 2:15 p.m. **Break**
- 2:30 p.m. **Operations Perspective** (George Borlodon)
- **Licensed Operations**
 - **Human-Machine Interface**
 - **New Control Room Design**
- 3:45 p.m. **Economics and Costs of Nuclear Energy**
- **Economics of Nuclear Energy** (Greg Gibbs)
 - **Historical Development, Commercialization and Deployment Costs** (Bob Varrin)
 - **Perspectives on Historical Costs** (Bob Varrin)
- 5:00 p.m. **Open Discussion/Adjourn**

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May 16, 2019

- 8:00 a.m. **The Future of Nuclear Energy**
- **Achieving a Sustainable Future for Nuclear Energy – major challenges** (Phil Hildebrandt)
 - **Defining a Credible Future Value Proposition** (Phil Hildebrandt)
 - **Fuel and technology diverse energy production portfolio**
 - **Public policies and the energy market structures**
 - **Sustainable Leadership to Shape the Future of Nuclear Energy** (Phil Hildebrandt)
 - **Roles of Private Industry and Government to Achieve a Sustainable Future for Nuclear Energy** (Greg Gibbs)
 - **Approaches to Reducing Costs for Nuclear Energy** (Bob Varrin)
- 10:00 a.m. **Break**
- 10:15 a.m. **The Future of Nuclear Energy (continued)**
- **Potential Role of Evolutionary and Advanced Nuclear Energy Systems** (Finis Southworth)
 - **Safety Case Approach and Regulatory Regime for Advanced Nuclear Energy Systems** (Jim Kinsey)
 - **Technology, Infrastructure and Cost for New and Expanded Fuel Cycles** (Bob Varrin)
- 12:00 p.m. **Working Lunch – “The Versatile Test Reactor”** (Kemal Pasamehmetoglu)
- 12:30 p.m. **Design Decisions – Panel Discussion**
- **Achieving Credible Design Decisions – Audience Participation** (led by Phil Hildebrandt)
- 2:45 p.m. **Break**
- 3:00 p.m. **Wrap-up and Open Discussion** (led by Phil Hildebrandt)
- 5:00 p.m. **Adjourn**